



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,866	11/26/2002	Muthuvelan Varadharajulu	129716	3390

23446 7590 11/26/2004

MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER

SANTOS, ROBERT G

ART UNIT PAPER NUMBER

3673

DATE MAILED: 11/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/065,866	Applicant(s) VARADHARAJULU ET AL.	
	Examiner Robert G. Santos	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8, 19 and 26-36 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-18 and 20-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 2, 2004 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 11, 13, 15, 16 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Nonaka et al. '760. With regards to claims 11 and 25, Nonaka et al. disclose the claimed limitations of a method for positioning a patient (10) for medical applications, the method comprising vertically positioning (through element 40) a patient positioning table surface (20) to a desired height to allow a patient to be loaded onto the patient positioning surface; rotating the patient positioning surface (through elements 70 and 80) to allow a patient to be loaded onto the patient positioning surface; loading a patient on the patient positioning surface (as shown in Figures 2-4 & 9-13); positioning the patient for a medical procedure, the positioning step

Art Unit: 3673

comprising at least one of rotating, lifting, lateral motion, longitudinal motion, and longitudinal tilting of the patient positioning surface (as described in column 8, lines 6-43); and maintaining a region of interest of the patient in an image area by tilting the patient positioning surface in an inverse kinematic relationship with one or more of lifting and longitudinal movements of the table (as described in column 9, lines 7-17) during a procedure involving movement of the patient positioning surface (also as described in column 6, lines 31-41; column 11, lines 65-67; and column 12, lines 1-3 & 14-17). As concerns claim 13, the reference also discloses the step of returning the patient positioning surface to a horizontal starting position for emergency situations (see column 6, lines 42-51 & 63-67; column 7, lines 1-3; column 10, lines 60-67; and column 12, lines 30-33). With regards to claim 15, the reference is considered to show the step of locking the patient positioning surface during the medical procedure in column 10, lines 54-57. As concerns claim 16, the reference also discloses the step of manually moving the patient positioning surface in at least one of the lateral and longitudinal directions (see column 13, lines 19-21). With further regards to claim 25, the reference is also considered to show the use of a base (115) attaching the table to a floor (114) and a user interface for controlling movement of the table in Figure 12; column 8, lines 66-67; column 9, lines 1-17; column 10, lines 43-48; and column 12, lines 42-44).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 3673

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 5, 6, 9, 10, 17 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of Uosaki et al. '893, and further in view of Horsey '019. Nonaka et al., as modified by Uosaki et al. (see Figure 8 and column 5, lines 38-68), are considered to show all of the claimed limitations as recited in claims 1, 2, 5, 6, 9, 10, 17 and 20-24 except for a tilt subsystem including a ball screw and rotary nut. Horsey '019 provides the basic teaching of a patient positioning system (10) having a tilt subsystem including a ball screw and rotary nut assembly (24 or 33). The skilled artisan would have found it obvious at the time the invention was made to provide the patient positioning system of Nonaka et al. '760, as modified by Uosaki et al. '893, with a tilt subsystem including a ball screw and rotary nut in order to provide an alternate conventional means for tilting the patient positioning surface as desired.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of Kamata '600 and further in view of Horsey '019. Nonaka et al., as modified by Kamata '600 (see Figures 5A & 5B and column 3, lines 15-42), do not specifically disclose the use of a tilt subsystem including a ball screw and rotary nut. Horsey '019 provides the basic teaching of a patient positioning system (10) having a tilt subsystem including a ball screw and rotary nut assembly (24 or 33). The skilled artisan would have found it obvious at the time the invention was made to provide the patient positioning system of Nonaka et al. '760, as modified by Kamata '600, with a tilt subsystem including a ball screw and rotary nut in order to provide an alternate conventional means for tilting the patient positioning surface as desired.

Art Unit: 3673

7. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of Uosaki et al. '893 and Horsey '019 and further in view of Velazquez '571. Nonaka et al. '760, as modified by Uosaki et al. '893 and as further modified by Horsey '019, do not specifically disclose the use of patient restraints. Velazquez '571 provides the basic teaching of a patient positioning system (10) provided with patient restraints (12, 14) to minimize body motion of a patient during an imaging procedure "so as to ensure high image quality" (see Velazquez '571, column 1, lines 11-21, 27-34, & 44-47). Since it would be advantageous to collect data having good image quality during a routine patient imaging procedure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the patient positioning system of Nonaka et al. '760, as modified by Uosaki et al. '893 and as further modified by Horsey '019, to include patient restraints as taught by Velazquez '571.

8. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of Pattee '428. As concerns claim 4, Nonaka et al. do not specifically disclose a condition wherein the longitudinal subsystem moves the patient positioning surface in a longitudinal direction using a two-stage synchronized telescopic longitudinal system. Pattee '428 provides the basic teaching of a patient positioning system (100) having a longitudinal subsystem including a two-stage (110, 120) synchronized telescopic longitudinal system (200). The skilled artisan would have found it obvious at the time the invention was made to provide the patient positioning system of Nonaka et al. '760 with a longitudinal subsystem including a two-stage synchronized telescopic longitudinal system in order to impart a greater range of and smoother transitioning between extension and retraction to the patient positioning surface, thereby allowing for a larger imaging area and more compact storage capability while also

Art Unit: 3673

ensuring proper support and comfort of a patient positioned thereon (see column 1, lines 65-67 and column 2, lines 1-3 & 14-17).

With regards to claim 12, Nonaka et al. also do not specifically disclose the step of unloading the patient from the patient positioning surface. Pattee '428 discloses a method for positioning a patient for medical applications which includes the step of unloading the patient from the patient positioning surface (see column 4, lines 27-29). The skilled artisan would have found it obvious at the time the invention was made to unload the patient from the patient positioning surface of Nonaka et al. '760 in order to indicate completion of the medical procedure as taught by Pattee '428.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of Velazquez '571. Nonaka et al. do not specifically disclose the step of securing the patient to the patient positioning surface. Velazquez '571 provides the basic teaching of a patient positioning system (10) provided with patient restraints (12, 14) to minimize body motion of a patient during an imaging procedure "so as to ensure high image quality" (see Velazquez '571, column 1, lines 11-21, 27-34, & 44-47). Since it would be advantageous to collect data having good image quality during a routine patient imaging procedure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the patient positioning system of Nonaka et al. '760 to include patient restraints as taught by Velazquez '571.

Response to Amendment

In response to Applicants' arguments on pages 16-18 and 24 of their amendment regarding the Nonaka et al. '760 patent, the examiner respectfully maintains that Nonaka et al. still teaches the claimed limitation of maintaining a region of interest of a patient by tilting a patient positioning surface during a procedure involving movement of the patient positioning surface; as described in column 9, lines 12-15 in the disclosure of Nonaka et al. '760, each of the X, Y, and Z perpendicular axes as well as the i, p, and r rotation axes are driven "to transfer the diseased part of the patient to the desired position." Hence, the prior art rejections of claims 11, 13, 15, 16 and 25 under 35 U.S.C. 102(b) as well as the prior art rejection of claim 14 under 35 U.S.C. 103(a) have been respectfully maintained. Furthermore, Applicants' arguments on pages 18-23 of their amendment with respect to claims 1-7, 9, 10, 17, 18 and 20-24 have been considered but are moot in view of the new ground(s) of rejection.

Lastly, in response to Applicants' arguments on pages 23 and 24 of their amendment that there is no suggestion to combine the Nonaka et al. '760 and Pattee '428 references, the examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA 1969). In this case, although the motivations to make the modifications which were stated in the Office action were not expressly articulated

Art Unit: 3673

within the references, one of ordinary skill in the art would have still found it obvious to combine the references simply due to the advantageous effects achieved by combining the elements inherent to the devices disclosed in the references. Thus it is believed that the examiner has provided a *prima facie* case of obviousness absent the use of impermissible hindsight.

Allowable Subject Matter

10. Claims 8, 19 and 26-36 are allowed.

Conclusion

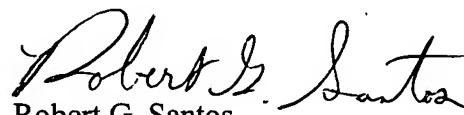
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Alakkat '758, Moyers '806, Benoit et al. '569, Van Steenburg '071, Van Steenburg '754 and Duer '785.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert G. Santos whose telephone number is (703) 308-7469. The examiner can normally be reached on Tues-Fr and first Mondays, 10:30 a.m. to 8:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on (703) 308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3673

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Robert G. Santos
Primary Examiner
Art Unit 3673

R.S.
November 23, 2004